

3. (Twice Amended) The method of Claim 26 further comprising affixing the heat sink to a die.

4. (Canceled)

5. (Amended) The method of Claim 26 further comprising gradually lowering a temperature of the heat sink to an intermediate temperature prior to said subjecting.

6. (Amended) The method of Claim 26 wherein the heating reduces a number of grain boundaries of the material.

7. (Canceled)

8. (Canceled)

9. (Amended) The method of Claim 28 wherein the alloy material has precipitating constituents.

10. (Amended) The method of Claim 28 wherein said re-crystallizing increases a grain size of the alloy material.

11. (Twice Amended) The method of Claim 28 wherein the alloy material is one of an aluminum alloy and a copper alloy.

12. (Canceled)

13. (Amended) The method of Claim 28 further comprising affixing the heat sink to a die.

14. (Canceled)

15. (Canceled)

16. (Amended) The method of Claim 27 further comprising gradually lowering a temperature of the heat sink to an intermediate temperature prior to said subjecting.

17. (Twice Amended) The method of Claim 27 further comprising affixing the heat sink to a die.

18. (Amended) A method comprising:
changing a microstructure of a material of a heat sink from a fine grain to a coarse grain by heating the material to an elevated temperature; and
lowering the temperature of the heat sink to a cryogenic temperature.

19. (Amended) The method of claim 18, further comprising raising the temperature of the heat sink from the cryogenic temperature to a room temperature.

20. (Amended) The method of claim 18, wherein said lowering further comprises initially reducing the temperature of the heat sink to an intermediate temperature above the cryogenic temperature.

21. (Canceled)

22. (Amended) The method of claim 18, further comprising thermally coupling the heat sink to a die.

23. (Canceled)

24. (Amended) The method of claim 19, wherein the elevated temperature is greater than 850 degrees Fahrenheit and the cryogenic temperature is approximately -327 degrees Fahrenheit.

25. (Amended) The method of claim 20, wherein said lowering comprises placing the heat sink in a bath of liquid nitrogen.

26. (New) A method comprising:
providing a heat sink of a material having a grain size increased by heating of the material to improve thermal conductivity of the heat sink; and
subjecting the heat sink to a cryogenic temperature to strengthen the material.

27. (New) A method comprising:
providing a heat sink for coupling to a die, the heat sink of a material having a first grain size; and
increasing the first grain size to a second grain size to enhance the thermal conductivity of the heat sink.

28. (New) A method comprising:
re-crystallizing an alloy material of a heat sink to improve a thermal conductivity of the heat

sink; and

subjecting the heat sink to a cryogenic temperature to strengthen the alloy material.

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